IN THE CLAIMS:

Amend the claims as follows.

Claims 1-39 (Canceled).

40. (Previously Presented) Method for treating keratinous hair fibres to endow them with novel appropriate properties, comprising (i) reducing, with at least one reducing agent, the disulphide bonds of the hair keratin for generating reactive sites only on the surface of said fibres to a depth of less than 10 μm, wherein said reducing generates 0.1% to 5% by weight of cysteine with respect to the total amino acids of the keratinous hair fibres, and (ii) covalently fixing at least one active compound which is capable of endowing the keratinous hair fibres with novel appropriate properties on said reactive sites, said active compound comprising at least one reactive function which is capable of reacting with said reactive sites formed on the surface of the keratinous fibres.

41. (Previously Presented) Method according to claim 40, wherein in a first step, the disulphide bonds of the keratin are reduced and, after optional rinsing with water, a second step is then carried out in which the active compound is fixed.

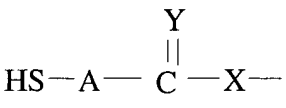
42. (Previously Presented) Method according to Claim 40, wherein reduction of the disulphide bonds of the keratin is carried out simultaneously with fixing of the active compound.

43. (Previously Presented) Method according to claim 40, wherein reduction is carried out to a depth of about 4 to 5 μm.

44. (Previously Presented) Method according to Claim 40, wherein reduction is carried out in order to generate 0.1% to 2% by weight of cysteine with respect to the total amino acids of the keratinous hair fibres.

45. (Previously Presented) Method according to claim 40, wherein the disulphide bonds of the keratin are reduced with a reducing agent selected from thiols, hydrides, sulphites or bisulphites, phosphines and phosphites, hyperbranched polymers and dendrimers carrying terminal thiol functions.

46. (Previously Presented) Method according to claim 45, wherein the reducing agent is selected from the group consisting of hyperbranched polymers and dendrimers carrying terminal thiol functions, having formula (I):



(I)

where:

Y represents an oxygen atom or an NH group;

A represents a linear, branched or cyclic, saturated or unsaturated C_1-C_{12} alkane di-yl group,

optionally interrupted by one or more heteroatoms, or optionally substituted by:

-NH_2, optionally in the form of a salt;

-NH-COR, where R represents a linear, branched or cyclic, saturated or unsaturated C_1-C_{10} alkyl group;

a carboxylic acid function; or

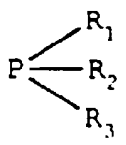
a C_1-C_{10} ester function;

and X represents a nucleophilic group.

47. (Previously Presented) Method according to claim 46, wherein said reducing agent is present in a solution at a concentration such that the thiol titre of the solution is in the range of from 100 to 500 meq/l.

48. (Previously Presented) Method according to claim 47, wherein said thiol titre is in the range of from 500 to 2000 meq/l.

49. (Previously Presented) Method according to claim 45, wherein the reducing agent is a phosphine of the general formula:



(II)

where:

R_1, R_2 and R_3, which are identical, represent one of:

(a) $-(CH_2)_n-CH_3$

(b) $-(CH_2)_m-\underset{\underset{R}{|}}{\overset{\overset{R}{|}}{C}}-O-R$

(c) $-(CH_2)_n-COOR$

(d) $-(CH_2)_n-CONRR'$ and

(e) $-(CH_2)_n-NRR'$

n = 1 to 3

m = 0 or 1 to 3

R and R', which are identical or different, represent a hydrogen atom or a linear or branched C_1-C_4 alkyl radical, and

salts of said compounds of the formula (II) with a mineral or organic acid.

50. (Previously Presented) Method according to Claim 49, wherein the phosphine salts with formula (II) are selected from hydrochlorides, hydrobromides, sulphates, citrates , oxalates and acetates.

51. (Previously Presented) Method according to claim 49, wherein the phosphine is tris(2-carboxyethyl)phosphine.

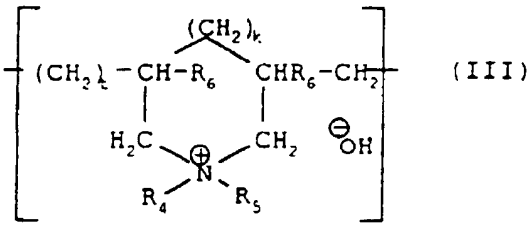
52. (Previously Presented) Method according to claim 51, wherein the phosphine is present in a concentration in the range of from 10^{-3} M to 1 M.

53. (Previously Presented) Method according to claim 49, wherein the phosphine is tris-(hydroxymethyl)phosphine.

54. (Previously Presented) Method according to claim 53, wherein the phosphine is present in a concentration in the range of from 10^{-3} M to 1 M.

55. (Previously Presented) Method according to claim 45, wherein the reducing agent is a thiol present in an aqueous solution whose pH is adjusted in the range of from 6.5 to 9 with an agent selected from the group consisting of aqueous ammonia, monoethanolamine, diethanolamine, triethanolamine, 1,3-propanediamine, an alkaline or ammonium carbonate or bicarbonate, an organic carbonate, an alkaline hydroxide and a polyquaternary ammonium hydroxide.

56. (Previously Presented) Method according to claim 55, wherein the polyquaternary ammonium hydroxide is a homopolymer comprising units having the following formula (III) as the main constituent of the chain:



(III)

where:

k and t are equal to 0 or 1, the sum k + t being equal to 1;

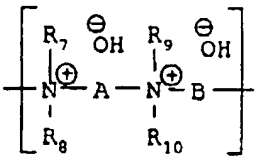
R_4 and R_5 each independently represent an alkyl radical containing 1 to 22 carbon atoms, a hydroxyalkyl radical where the alkyl group contains 1 to 5 carbon atoms, or an amidoalkyl radical where the alkyl group contains 1 to 5 carbon atoms;

or R_4 and R_5, together with the nitrogen atom to which they are attached, represent heterocyclic radicals; and

R_6 represents a hydrogen atom or a methyl radical.

57. (Previously Presented) Method according to claim 56, wherein in formula (III), t = 1 and k = 0; R_4 and R_5 represent methyl and R_6 represents a hydrogen atom.

58. (Previously Presented) Method according to claim 55, wherein the polyquaternary ammonium hydroxide is a quaternary diammonium polymers containing repeat units having the formula (IV):



(IV)

where:

R_7, R_8, R_9 and R_{10}, which may be identical or different, represent aliphatic, alicyclic or arylaliphatic radicals containing 1 to 20 carbon atoms or C_1-C_5 lower hydroxyaliphatic radicals, or R_7, R_8, R_9 and R_{10} , taken together or separately, form with the nitrogen atoms to which they are attached, heterocycles optionally containing a

second heteroatom other than nitrogen, or R_7, R_8, R_9 and R_{10}, represent a linear or branched C_1-C_6 alkyl radical substituted by a nitrile, ester, acyl, amide or -$COOR_{11}$-Q or –CO-NH-R_{11}-Q function where R_{11} is an alkylene and Q is a quaternary ammonium group;

A and B represent linear or branched, saturated or unsaturated polymethylene groups containing 2 to 20 carbon atoms optionally containing, bonded to or interposed in the main chain, one or more aromatic ring(s), one or more oxygen or sulphur atom(s), or sulphoxide, hydroxyl, quaternary ammonium, ureido, amide or ester groups; or

A, R_7 and R_8 form a piperazine ring with the two nitrogen atoms to which they are attached; or

A represents a linear or branched, saturated or unsaturated alkylene or hydroxyalkylene radical, and B denotes a -$(CH_2)_n$-CO-D-OC-$(CH_2)_n$- group where D represents:

(i) a glycol residue with formula –O-Z-O- where Z represents a linear or branched hydrocarbon radical, or a –$(CH_2$-CH_2-$O)_x$-CH_2-CH_2- or -[CH_2-CH-(CH_3)-$O]_y$-CH_2-CH-(CH_3)- where x and y represent an integer from 1 to 4 corresponding to a defined and unique degree of polymerization, or any number from 1 to 4 corresponding to a mean degree of polymerization;

(ii) a bis-secondary diamine residue;

(iii) a bis-primary diamine residue with formula -NH-Y-NH- where Y represents a linear or branched hydrocarbon radical or the divalent radical –CH_2-CH_2-S-S-CH_2-CH_2-; or

(iv) a ureylene group with formula –NH-CO-NH-.

59. (Previously Presented) Method according to claim 58, wherein in formula (IV), R_7, R_8, R_9 and R_{10} represent methyl; A represents $-(CH_2)_3-$ and B represents $-(CH_2)_6-$.

60. (Previously Presented) Method according to claim 58, wherein in formula (IV), R_7 and R_8 represent ethyl, R_9 and R_{10} represent methyl and A and B represent $-(CH_2)_3-$.

61. (Previously Presented) Method according to claim 58, wherein in formula (IV), R_7, R_8, R_9 and R_{10} represent methyl and A and B represent $-(CH_2)_3-$.

62. (Previously Presented) Method according to claim 58, wherein in formula (IV), R_7, R_8, R_9 and R_{10} represent methyl and A and B represent $-(CH_2)_6-$.

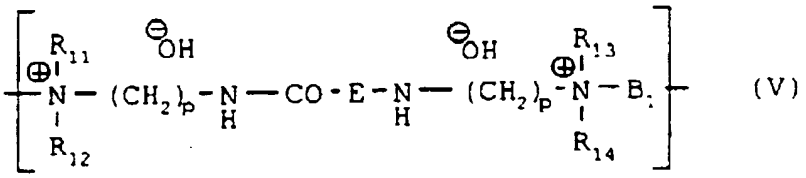
63. (Previously Presented) Method according to claim 58, wherein in formula (IV), R_7, R_8, R_9 and R_{10} represent methyl; A represents $-(CH_2)_3-$ and B represents $-(CH_2)_9-$.

64. (Previously Presented) Method according to claim 58, wherein in formula (IV), R_7, R_8, R_9 and R_{10} represent methyl; A represents $-(CH_2)_3-$ and B represents $-(CH_2)_2-O-(CH_2)_2-$.

65. (Previously Presented) Method according to claim 58, wherein in formula (IV), R_7, R_8, R_9 and R_{10} represent methyl; A represents $-(CH_2)_3-$ and B represents $-(CH_2)_2-O-(CH_2)_2-O-(CH_2)_2-$.

66. (Previously Presented) Method according to claim 58, wherein in formula (IV), R_7, R_8, R_9 and R_{10} represent methyl; A represents $-(CH_2)_2-O-(CH_2)_2-$and B represents $-(CH_2)_2-O-(CH_2)_2-O-(CH_2)_2-$.

67. (Previously Presented) Method according to claim 55, wherein the polyquaternary ammonium hydroxide is a polyquaternary ammonium polymer constituted by units of the formula (V):



(V)

where:

R_{11}, R_{12}, R_{13} and R_{14}, which may be identical or different, represent a hydrogen atom, methyl, ethyl, propyl, b-hydroxyethyl, b-hydroxypropyl or $-CH_2-CH_2-(O-CH_2-CH_2)_q-OH$, q being an integer from 0 to 6 and R_{11}, R_{12}, R_{13} and R_{14} not simultaneously being a hydrogen atom;

B_1 represents a linear or branched, saturated or unsaturated polymethylene group containing 2 to 20 carbon atoms and containing, bonded to or interposed in the main chain, one or more aromatic ring(s) or one or more oxygen or sulphur atom(s), or sulphoxide, sulphone, disulphide, amino, alkylamino, hydroxyl, quaternary ammonium, ureido, amide or ester groups;

p represents an integer from about 1 to 6; and

E is a covalent bond or represents a

$-(CH_2)_r$-CO- group where r represents a number equal to 4 or 7.

68. (Previously Presented) Method according to claim 67, wherein in formula (V), R_{11}, R_{12}, R_{13} and R_{14} represent methyl; B_1 represents–CH_2-CH_2-O-CH_2-CH_2- and E represents -$(CH_2)_4$-CO-.

69. (Previously Presented) Method according to claim 67, wherein in formula (V), R_{11}, R_{12}, R_{13} and R_{14} represent methyl; B_1 represents –CH_2-CH_2-O-CH_2-CH_2- and E represents -$(CH_2)_7$-CO-.

70. (Previously Presented) Method according to claim 67, wherein in formula (V), R_{11}, R_{12}, R_{13} and R_{14} represent methyl; B_1 represents –CH_2-CH_2-O-CH_2-CH_2- and E is a covalent bond.

71. (Previously Presented) Method according to claim 40, wherein the pH of the reducing agent composition is in the range of from 3 to 9.

72. (Previously Presented) Method according to claim 71, wherein the pH of the reducing composition is in the range of from 4 to 7.

73. (Previously Presented) Method according to claim 40, wherein the contact time for the aqueous reducing agent solution with the keratinous fibres is in the range of from about 30 seconds to 1 hour, the temperature being in the range of from room temperature to less than 60 °C.

74. (Previously Presented) Method according to claim 40, wherein the active compound is selected from colorants, sunscreens, shine agents and hydrophobic compounds, said active compound carrying at least one nucleofugic function.

75. (Previously Presented) Method according to claim 40, wherein the active compound is used in an aqueous solution at a concentration in the range of from about 10^{-3}% to 20%, the pH of said solution being in the range of from about 2 to 10.

76. (Previously Presented) Method according to claim 40, wherein the contact time for the aqueous solution of active compound is in the range of from about 1 minute to 1 hour, the temperature being in the range of from room temperature to less than 60 °C.